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ABSTRACT

The Multi-Ability classroom signifies changes for desegregated classrooms in both task and evaluation structure, so as to prevent consistent dominance by high status students. In an exploratory study, the effects of a changed task structure were examined in fifth and sixth grade racially mixed classrooms. These classrooms received a small group curriculum featuring tasks that did not require reading, along with norms that would help teachers to encourage equal participation of all students. Teachers were instructed to make liberal use of small groups and tasks requiring many different intellectual abilities. The net effect of this task structure, as compared to more conventional task structures, was more active academic behavior of low status readers, who were mostly black, in ongoing class work and in mixed status discussion groups. Despite the increased participation of low status readers, however, reading status still appeared a powerful force in determining competence evaluations by teachers. This indicates that it may be easier to increase academic participation and, thus, learning outcomes than it is to avoid reinforcing racist expectations for incompetence of the low achieving minority student. (Author/GC)

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A MULTI-ABILITY APPROACH TO THE INTEGRATED CLASSROOM

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A MULTI-ABILITY APPROACH TO THE INTEGRATED CLASSROOM

A Multi-Ability classroom is a set of recommendations for permanent changes in the task and evaluation structure of classrooms. These changes are calculated to increase active, engaged, learning behavior of low status students and to provide detailed enriched feedback to the student on how he or she is doing on many different specific tasks.

These changes are designed to modify expectations of competence held by classmates for each other and by the student for him/herself. Instead of a set of consistent expectations for competence for a student based on how "smart" or "dumb" he or she is, we introduce multiple intellectual abilities on which each child develops mixed expectations for competence, not just consistent high or low expectations. This classroom model requires the changing of the perception and conception of human ability from unidimensional to multi-dimentional. Active steps must be taken to prevent reading achievement from being used as the index of where each child stands on what is commonly thought to be a single dimension of human intelligence.

Unless strong steps are taken, what happens in many classrooms is that a child's ability in reading is used as an index to organize expectations for how competent he or she will be at a wide range of classroom tasks. This is, of course, encouraged by making reading a prerequisite of success at almost every classroom task. However, even if we set a task, such as small group discussion or a game task not requiring reading, we have collected consistent evidence that those children who are perceived to be better readers will be more active and influential than those who are perceived to be weaker readers (Rosenholtz, 1980; Stulac, 1975). This is a kind of self-fulfilling prophecy whereby those who are better readers expect to be better at a wide range of intellectual tasks; and those who

are weaker readers expect to do poorly at a wide range of tasks. These different expectations result in different behaviors in new cooperative group tasks that have nothing to do with reading, so that those who are expected to do better talk more and thereby become more influential.

This phenomenon, which sociologists have called status generalization (Berger, Cohen and Zelditch, 1972), is of critical importance in those integrated classrooms which contain minority children of a lower social class than the majority children. In these classrooms, the minority children enter with a marked achievement differential; objective differences in academic skill will turn into a status order based on differences in perceived academic ability, but particularly in the earlier grades the status order is based on perceived reading ability. Even if the instructor does as is widely recommended in today's literature on integrated classrooms, and makes broad use of cooperative interracial groups for learning, the stage will be set for self-fulfilling prophecies based on reading status--and unfortunately the Blacks or Browns are much more likely to have low reading status than the Whites.

I would argue that there are at least two undesirable side effects of the formation of such an academic status order in the integrated classroom. One is the confirmation of racist stereotypes of less intellectual competence on the part of the minority students. When, as a result of small group discussion, the majority child emerges as more influential and is seen as having better ideas, or when peer tutoring is used and the minority child is the object of academic assistance by the "superior" Anglo student, this can only serve to reinforce widely held racist evaluations of intellectual incompetence.

Secondly, I would argue that if low-achieving minority children feel generally intellectually incompetent in the integrated classroom, it will become very difficult to make them put out the requisite effort and active participation necessary to bring their academic skills up to grade level. If an individual has general expectations for incompetence at academic

tasks. he or she is unlikely to respond to a demanding and intellectual academic program with strong efforts, because he or she does not believe there is any reasonable chance for success.

There are many reasons why lower social class minority students have not done as well academically in racially integrated classrooms as their parents and their teachers had hoped. I propose that the tendency of classrooms to use a task and evaluation structure which produce "winners" and "losers" inside every classroom is a fundamental cause of continued poor performance. Certain instructional features of classrooms interact with differences in social status between the races to produce a double basis for depressed expectations for competence on the part of low-achieving minority students ---- racial status and reading status (see Cohen, "Design and Redesign of the Desegregated School," in Desegregation, Past, Present and Future, Walter Stephan and Joe Feagin (Eds.), Plenum Publishing Company, New York, 1980). It becomes necessary to attack the underlying differential in intellectual competence expectations in order to achieve the active learning and the success necessary to change both the achievement outcomes and the socio-psychological outcomes those interested in integrated education desire.

Theory and Research

These strong assertions stem from a lengthy research program which has used Expectations States Theory (Berger, Cohen, and Zelditch, 1972) to explain the operation of status problems in interracial groups and to create interventions which will prevent undesired dominance of high status members. The theory offers an explanation for the process of status generalization -- the spread of expectations for competence to new tasks where there is no rational basis for expecting high status group members to do better than low status members. The earliest studies in the applied research program demonstrated that in interracial groups of junior high school boys who did not know

each other and who were assigned a collective cooperative task, the Whites were more active and influential than the Blacks. The theory explains this on the basis of general expectations for incompetence which are attached to certain racial groups in the culture of contemporary American society. These expectations are activated in new collective tasks, where there is no other basis for assigning expected competence. In the terminology of the theory, race is a "diffuse status characteristic." Some Whites and Blacks hold general expectations for superior competence of Whites as compared to Blacks. These racist expectations then become the basis for assignment of expected competence on new tasks. Once the assignment process has taken place, the Whites have a higher probability of being active and becoming more influential than the Blacks. The net result is a prestige order emerging from small group interaction which is the same as that in the larger society (Cohen, 1972).

The process of status generalization based on a reading status characteristic is similar to that based on a racial status characteristic, in that status differences in the group become the basis for organizing expectations for competence in new tasks. If groups are composed of students who are ranked by their classmates as "high" or "low" on reading or "medium" and "low," the better readers will dominate the poorer readers even though the task requires no school skills (Rosenholtz, 1980; Stulac, 1975).

The Multi-Ability Classroom model stems from experience in a lengthy research program with successful interventions in the process of status generalization. The basic strategy is to interfere in the process by making multiple abilities instead of a single ability relevant to new tasks. By breaking up the concept of human ability into dimensions which are more independent of each other in the minds of the students, it is possible for them to develop a more mixed set of evaluations of their own competence on these new multiple abilities. Thus when the teacher sets a new collective task, instead of the students using reading status as the most relevant basis for organizing

their expectations for competence, they will use ability in reading plus ability in many other new dimensions in order to assign expectations for competence for self and other. The net result will be dramatically lessened dominance by high readers in collective task groups.

Stulac originally demonstrated the effectivenesss of this intervention in a laboratory study in which she introduced a discussion task by telling the students in the experimental group that the group discussion would involve many different abilities. She proceeded to name some of these such as "Giving new and different ideas," and "Helping the group reach a decision." She explicitly told the students that no one person could be expected to do well at all these abilities and that each person would be good on at least one. The control groups were simply given the discussion task. Following this demonstration task, the children experienced a standardized game task (a collective criterion task used throughout the research program) in mixed status groups. The net result was that High Readers were significantly less likely to dominate the groups on the game if they had experienced a discussion task under Multi-Ability instructions than if they had simply experienced the same task without these instructions (Stulac, 1975).

Rosenholtz took this Multi-Ability intervention and developed it into a one-week curriculum in which children actually experienced a number of group tasks exemplifying three new human abilities, Visual Thinking, Intuitive Thinking and Reasoning. These tasks were designed so that self-fulfilling prophecies could not take place and so that High Readers would emerge with no better evaluations of their skill than the Low Readers. Rosenholtz showed on the standardized game task that Low Readers were significantly more active and influential if they had experienced the Multi-Ability curriculum than Low Readers from control classrooms. The Rosenholtz experiment was run in all-White classrooms with a sharp socio-economic differentiation. Although her curriculum showed highly statistically significant effects, the tendency of High Readers to

dominate Low Readers did not disappear after one week's treatment (1980).

Application to the Ongoing Integrated Classroom

Although we are confident that the Multi-Ability intervention is effective in modifying status generalization, a one week curriculum cannot be a panacea in an ongoing desegregated classroom. There are key features of the regular instructional program and evaluation system which will rebuild an academic status order even if it is successfully treated in the short run. These instructional features constantly reinforce the childrens' belief that the classroom is made up of "smart" and "dumb" students and that reading ability is a workable index of where one stands on that single dimension of human ability.

Two dimensions of traditional classroom organization--task and evaluation--combine to produce a strong shared perception of a single rank order based on academic ability. Conventional classroom task structure contributes to the notion that reading ability is a valid index of general human ability in two ways: First, curriculum activities repeatedly require the same basic skills in all content areas, thereby presenting a narrow, consistent picture of a student's academic capabilities. More specifically, reading skills are made the prerequisite of success in all other academic subjects. Better readers, therefore, outperform poorer readers in each content area which leads to a uniformity in grades across subjects. Second, there are no viable alternative conceptions of ability available to students in the traditional classroom. Music and art are given little emphasis; there are few intellectual tasks presented where students who are not accomplished readers can excell on other intellectual dimensions such as reasoning, decision making, observational acuity, or the generation of new ideas.

The unitary curriculum alone, however, is not sufficient to produce academic status orders. If children do not perceive themselves, in a consensual way, as widely differing in ability, then

academic status orders cannot form. By supplying public performance information, the evaluation structure of the classroom makes it possible for children to interpret their performance comparatively. In the traditional classroom the teacher is the dominant source of evaluation; whole-class recitation or ability groups with stable membership are the most common teaching techniques. In whole-class recitation the teacher's evaluation of answers as right or wrong automatically becomes public knowledge. In ability groups, the label constitutes a public evaluation of competence which children invariably understand regardless of the teacher's attempt to hide the label. A third source of shared knowledge on competence are the formal grades allocated to students on report cards and tests. Many teachers use frequent grades and numbers on homework assignments and tests as the sole form of evaluation and feedback to individual students.

Evidence on Single Ability Classroom

These kinds of classrooms we will call Single Ability Classrooms. In Single Ability Classrooms, there is likely to be a high degree of consensus in rank order on reading ability. Rosenholtz and Wilson (1980) studied 15 fifth and sixth grade classrooms; they developed an index of how closely instruction in each classroom resembled the single ability classroom. They used teacher questionnaires to measure the variety of instructional groups and tasks, the degree of autonomy given to the students, and the frequency of comparative and competitive evaluation by the teacher. They found a strong association between a high value on this index and a high degree of agreement between the students as to the ranking of each student on how good they were at reading. The connection between instructional practices and the strength of the status order based on reading ability was thus documented. When the desegregated classroom resembles a single ability classroom, the strong operation of status effects based on reading rank makes achievement of equal status conditions almost impossible. In an ethnographic study of a desegregated school, Schofield and Sagar (1979) conclude that a

great emphasis on conventional academic goals helped to make academic achievement an extremely salient dimension for interpersonal evaluation; the fact that the Black children tended to be the low achievers then produced a real barrier to the development of positive intergroup relations. Rist's (1973) extensive observation of poor performers (Black) in integrated classrooms fitting the definition of a single ability classroom, showed repeated withdrawal, refusal to settle down to work, and aggressive behavior such as poking at other children and stealing pencils. Simpson (1977) characterized unidimensional versus multi-dimensional classrooms along much the same dimension we have just described. Examination of racially integrated classrooms varying along this dimension revealed that in unidimensional classrooms, the teachers rated Blacks and Chicanos as having greater performance deficits than did teachers who ran multi-dimensional classrooms.

Implementing the Multi-Ability Classroom

We have reviewed evidence on the operation of status characteristics in groups of students and evidence on the relationship of instruction to the creation and reinforcement of status characteristics based on reading ability. We now turn to the question: Is it possible to alter the instructional characteristics of a classroom in such a way that the operation of a status order based on reading is modified and remains softened over time? As part of a larger project, the Stanford Status Equalization Project attempted to implement the full version of the Multi-Ability Classroom in seven classrooms of an integrated school. This was an exploratory study, following a short-term experiment which used Rosenholtz's one-week Multi-Ability Curriculum in ongoing integrated fifth and sixth grade classrooms in three schools.

As explained above, we had no reason to expect that a one-week curriculum would maintain equal status behavior in the face of conventional instructional practices. Careful evaluation

of the teachers in the project the year before the experiment showed that none of them used the recommended task and evaluation structure of the Multi-Ability Classroom although many of the recommended features, taken one at a time, were found in use in some of the classrooms. Therefore, we assumed that unless everyday instruction was changed, the academic status order would quickly become once more the major basis for organizing expectations for competence.

This exploratory study was carried out in a 56% Black integrated school, with seven classrooms experiencing the in-service treatment and six acting as untreated comparison classrooms. Six of the seven in-service classrooms had experienced the experimental Multi-Ability Curriculum for one week in the fall of the year. After the one-week experiment we asked for volunteers who wanted assistance in implementing the kind of multi-ability groups they had seen in the Rosenholtz curriculum.

In the year before the experiment we examined the operation of status generalization in four-person groups of classmates. We composed six all-Black four-person groups of two students who were ranked higher in reading ability by their classmates and two who were ranked lower. Groups were of the same sex, did not include friends, and were matched on social power. They played the standardized game task which requires no academic skills but asks the groups to make a series of collective decisions. The High Readers were more active and influential than the Low Readers; of successful influence scores, the High Readers accounted for 61% and the Low Readers, 39%. When we intensified the status differences by composing eight groups with White High Readers and Black Low Readers, the results were exactly the same as in the all Black groups differentiated only on reading status. These results, showing the power of reading status in a desegregated setting, led us to focus on treatment of the reading rather than the social status characteristic.

The impact of the operation of a reading status characteristic in the classrooms of this school was to underline the racial

characteristic, because so many more of the Low Readers were Black than White. Analysis of the rankings made by the students in these 13 classrooms in the school showed that 84 of the Low Readers were Black and 31 were White. Of the children chosen as the three best readers, 28 were Black and 70 were White. Because of the sharp social class difference between Blacks and Whites, the academic heterogeneity in these classrooms was extreme. There were functional illiterates working side by side with students reading at the high school level. There was no tracking of any kind in this large Grade 4-6 school.

Running laboratory and classroom experiments and analyzing natural variation in classrooms are very different operations from trying to engineer long-lasting changes in classrooms. Even though the theoretical goals of modifying task and evaluation structure were clear, there were many questions as to how to produce changes in a complex ongoing enterprise like a classroom functioning under strong accountability pressures for academic improvement in the basic skills. For example, how should we recommend that basic skills be taught? What should we suggest with respect to marking and grading, the officialy sanctioned method of evaluation? We opted for an individualized approach to the basic skills because invidious comparisons are much more difficult when students are working on different tasks and when grouping procedures are flexible. In combination with an individualized program we recommended the use of small groups and multi-media tasks which would require many more abilities than conventional paper-pencil tasks. In small heterogeneous groups the students would theoretically have the chance to continue to develop new conceptions of their own and their classmates' abilities, provided that we could build in a continuing method of preventing status generalization in these groups. Through small groups we could radically increase participation of low-status students who might then show higher rates of active learning behavior.

The principles of changing task and evaluation structure were briefly described in a handout given to the teachers (see Fig.I).

Figure I

THE MULTI-ABILITY CLASSROOM

Definition: A multi-ability classroom is one in which there are many dimensions of intellectual competence. No individual is likely to be rated highly on all these dimensions. Thus there are no students who are generally expected to be incompetent at new tasks and no students who are generally expected to be superior regardless of the nature of the task. In a multi-ability classroom, one's skill in reading represents only one important competence; it is not an index of general expectations for success at all classroom tasks.

Operating Principles

I. Increase opportunities for academic participation.
   A. Use heterogeneous small groups rather than large groups.
   B. Use guidelines for equal participation of all members of small groups.
   C. Use leadership roles and opportunities for all students in small groups.

II. Increase opportunities for success on academic tasks.
   A. Use academic tasks requiring multiple intellectual abilities.
      1. Try role playing.
      2. Use multi-media activities which accomodate individual learning style.
      3. Teacher publicly defines separate intellectual skills as components of tasks such as reasoning, observation, creativity.
   B. Individualize in conventional academic areas allowing student with weak skills to work on tasks which are not too easy and not too difficult.

C. Have small groups share skills so that the student with specific skill problems is not prevented from attaining success on tasks.

III. Avoid invidious comparison.

A. Make infrequent use of marks and grades which allow comparison between individuals on a single dimension.

B. Instead, use systematic individualized feedback to student on how well he or she is attaining objectives and which particular skills require further work.

C. Avoid public evaluation in recitation.

D. Avoid standardized tasks which make comparison on how well or fast a student is completing the task very easy.

E. When using groupwork, evaluate the group product rather than the contribution of the individual to the group.

This handout urged the teachers to make infrequent use of standardized tasks, marks, and grades, all of which theoretically allow invidious comparisons. It also stressed the use of intensive individualized private feedback to students as the preferred method of evaluation. At the same time the teacher was urged to use small groups to increase opportunities for academic participation and multi-ability tasks within these small groups to increase opportunities for success for all students. Teachers were specifically instructed to use a multi-ability definition of small group tasks in their introduction to the students, much like Stulac had used in the laboratory intervention (1975).

Starting in January, two staff members worked with the volunteer teachers over a three month period. Instead of telling the teachers what to do, they worked on a collegial basis, trying to assist the teachers to adapt their ordinary way of doing things to the general principles of the model. As it turned out, they spent most of their efforts assisting the teacher with the implemention of small groups. This was the change the teachers were most interested in and the one they were

most insecure about. In these lively heterogeneous classrooms, the volunteers turned out to be teachers who were experiencing some severe management problems. They had tried some work with small groups although not in the way we had recommended; and they had experienced a breakdown of classroom discipline. These were undoubtedly some of the reasons they volunteered for the in-service assistance[1].

In practical terms, if children are going to spend any amount of time working in interracial groups, it is essential that they learn new rules for behavior that help to make groups work well. Therefore in the in-service program we combined two interventions that will modify self-fulfilling prophecies and have the net effect of resocializing children for frequent groupwork activities. In their classroom demonstrations for the volunteer teachers, the project staff members used a Multi-Ability introduction to the small group curriculum. In addition, they introduced special norms for equal participation for all members, the value of listening to each other, the avoidance of "bossy" dominating behavior and other relevant groupwork skills.

This second treatment was based on the laboratory experiment of Morris, who demonstrated that the effects of reading status could be modified by introducing new norms for equal participation. Morris compared mixed reading status groups who had been introduced to the norms and had been given a chance to practice the new behaviors, to those groups who only practiced a discussion task. Treated groups were much less dominated by High Readers than groups who had merely experienced the same discussion tasks without special instruction (Morris, 1977).

This normative treatment does not attempt to modify competence expectations. It merely interferes with the self-fulfilling prophecy by preventing those who expect to be

[1] See Theresa Perez (1980) for discussion of the self-selection process of the volunteers.

more competent from doing much more talking than anybody else and preventing the group from listening carefully only to what the high status people say. The value of the treatment lies in the social skills for group discussion which solve so many of the problems of classroom management in groupwork and increase the quality of the intellectual discussion.

The in-service staff worked about seven hours in each classroom, moving the children through a training program in groupwork skills and giving them multiple opportunities to work in newly composed heterogeneous groups on discussion tasks. Gradually, the teacher learned to take over the management of these groups. In consultation with the teacher, the staff members explored how the regular curriculum, particularly social studies, might be adapted to small groups methods with multi-ability tasks. Because of the very limited time which these teachers had free for working on the project[2], the in-service staff spent no time in improving their skills in individualization or working with them on their system of academic feedback to individuals in the basic skills. In some classrooms, they had to assist the teacher in elementary maintenance of classroom discipline.

Results

The first issue to be explored in the data is whether or not students in the classrooms receiving in-service actually experienced a different task and evaluation structure from the students in the other classrooms. To what extent can we view behavior of the students as a function of their experiences in a Multi-Ability Classroom? The issue of whether or not these differences were a <u>product</u> of the in-service treatment is not central here. Rather the key point is whether or not we can

[2] Conditions in the school were far from favorable for the in-service program. Teacher morale was at an all time low. Administration was not supportative; there was no official time made free for the teachers to work with the Stanford staff (Perez, 1980).

compare the behavior of low status children in classrooms with the major Multi-Ability Classroom task and evaluation features to the behavior of students in classrooms closer to the Single Ability Classroom model.

The answer to this question was not easy to obtain. Teachers in this school all had their own ideas about what was the ideal kind of teaching behavior the Stanford project was advocating. Because we had gotten to know each teacher's classroom over a two year basis quite intimately, we had learned to distrust some of their own reports of instructional practices on our teacher questionnaire. We had good reason to suspect that some of them were giving us the answers they thought we wanted to hear. Therefore, in the data analysis, there is a preference for observational data on issues such as task structure. Better data are those from repeated samplings of the classroom in different subject areas and on different days. We also had considerable confidence in the childrens' reports on the teacher practices they had experienced[3].

Task Structure Differences

The in-service program went on between January and March. During April, all staff members were withdrawn from the school In May, a large staff returned to take a variety of observational and questionnaire measures in treated and untreated classrooms.

In connection with this evaluation, Ahmadjian selected 36 poor readers for intensive observation in three classrooms which had received in-service and three classrooms which had not. All these students had test scores well below grade level according to standardized measures. In untreated classrooms, she observed 13 Blacks, 4 Whites and 1 Asian. In treated classrooms, her target children included 14 Blacks, 2 Whites, and 2 Asians. These classes were from the fourth, fifth and sixth grades. Observations were made of each target child for three minute intervals during repeated visits to each classroom (Ahmadjian,1980).

[3] We used the Multi-Cultural Climate Scale questionnaire for this purpose, an instrument developed by James Deslonde.

The observers systematically scored interaction concerned with schoolwork between these poor readers and their classmates. For each three minute interval the observer recorded the size of the group in which the child was working and the nature of his/her activity.

Table 1 shows the proportion of observed time these children were engaged in the recommended pattern of multi-ability activities and/or small groups. Multi-ability activities in this scoring system consist of creative writing, multi-media tasks, or open discussion. More conventional tasks such as academic drill and paper/pencil tasks are counted as non multi-ability. Small groups are coded when the target child is observed working in a pair or in a group with three to six students.

Table 1

Proportion of Time Individual Students Were Observed in Activities and Groupings by In-service Treatment*

Treatment	Teacher	Total Observation Time	Non Multi-Ability Activities and Large Groups or Individual Work	Multi-Ability Activities and/or Small Groups
Yes	Teacher #1	3 hrs.15 min.	28%	72%
	Teacher #2	3 hrs.55 min.	52%	48%
	Teacher #3	4 hrs.33 min.	38%	62%
No	Teacher #4	3 hrs.18 min.	92%	8%
	Teacher #5	2 hrs.54 min.	85%	15%
	Teacher #6	2 hrs.12 min.	70%	30%

Key: Non Multi-Ability Activities = Academic Drill, Pencil/paper tasks

Large Groups or Individual Work = Individual, Large Group of 7 + Students

Multi-Ability Activities = Creative Writing, Multi-media tasks, Open Discussion

Small Groups = Pairs and 3-6 Students per Group

*Janis Lee Ahmadjian. "Academic Status and Reading Achievement: Modifying the Effects of the Self-fulfilling Prophecy." Unpublished doctoral dissertation, Stanford University, 1980.

There were major differences in the task and grouping patterns in the two sets of classrooms. While the children observed in three in-service classrooms spent 72%, 48% and 62% (respectively) of the observed time engaged in multi-ability activities and/or small groups, the comparable percentages in the untreated classrooms were 8%, 15% and 30%. These differences are a product of the large amounts of time devoted to large-group instruction and seatwork in the untreated classrooms.

The two sets of classrooms in the Ahmadjian study thus represent an excellent contrast of task structure along the theoretical lines of the model. The data on rates of academic interaction allow a comparison of the behavior of poor readers given a "multi-ability" task structure with poor readers given a "single ability" task structure.

Evaluation Differences

The evidence that the evaluation structure of in-service classrooms fit the theoretical model is much less clear than that on task structure. Perez did find that children in classrooms receiving in-service were signficantly more likely to report that teachers talked to them frequently about trouble with school work and about special things that students did well in school work or in the classroom (Perez, 1980). This is the general kind of individualized feedback the model recommends. On the other hand, Ahmadjian found that poor readers in in-service classrooms held inflated conceptions of their skills in reading; their estimate of their own competence was higher than the teachers' estimate and higher than their test scores would indicate (Ahmadjian, 1980).

Although this tendency toward self-deception was worse in untreated classrooms, these results suggest that teachers were failing to give honest and specific feedback on the realistic problems students faced in reading skill (a common problem in dealing with minority students). In addition, examination of conventional evaluation practices such as testing, quizzes, and proportion of homework that is marked and graded, showed that those teachers who were using the recommended individualized

feedback and individualized reading instruction, were at the same time, using conventional marking and grading patterns which promote invidious comparisons. This eclectic and inconsistent philosophy of evaluation was totally unexpected and does not fit the recommended model of evaluation. On a general index of evaluation created to measure the extent to which a classroom fit the total theoretical set of recommendations, only two of the teachers who received in-service received high scores; and two received low scores[9].

These results suggest that the in-service staff was not successful in producing the radical change in the evaluation system recommended for Multi-Ability Classrooms. This is probably not surprising given that they spent very little time working on the problem of evaluation compared to the time they spent preparing students and teachers for groupwork.

Task Structure and Behavior

If we examine as a consequent variable, the probability of verbal academically-related behavior, the Ahmadjian data reveal that working in small groups or working in small groups on multi-ability activities dramatically increases the probability of low readers talking to classmates about their work. Table 2 presents the average number of academic interactions per minute for observations made on target children in different grouping and activity settings. Particularly noticeable is the interaction rate of 1.54 acts per minute for small group settings compared to .29 acts per minute for large group settings and .45 acts per minute in individual seatwork. When the setting was

[9] This 12 item index does contain many items of teacher self-report; but self-report items correlate well with items based on observation. The index counts as negative items, the frequency of marking, the proportion of work grades and the frequency of quizzes and tests. Positive items include teacher reports of frequency of talking with students about progress in their work and specific skill need. The observed variables include opportunities for invidious comparison seen in the classroom, frequency of public criticism and public evaluation by the teacher (Wilson, 1979, p. 67).

small group and the activity was multi-ability (something never observed in untreated classrooms), the interaction rate rose to 2.53 acts per minute.

Table 2

Academic Interaction with Other Students: Acts Per Minute for Observations of Various Grouping Size/Activity Types*

Grouping Size/ Activity Type	$\bar{X}$	s^2	Academic Initiation with Other Students No. of Observations
Small Group	1.54	3.33	23
Large Group	.29	.19	30
Indiviual	.45	.27	36
Multi-Ability Activity	.40	.61	29
Small Group/ Multi-Ability Activity	2.53	10.80	16
Large Group/ Non-Multi-Ability Activity	.47	2.01	22

*Ahmadjian, Op.cit.

Academic interaction with teachers as well as with students is more likely for small groups than large groups or seatwork. Small groups with multi-ability activity show a fairly high rate of teacher-student interaction, but it is not as high as traditional large group instruction where the teacher is calling on various students (Large Group/Non-Multi-Ability Activity). Table 3 gives these rates of academic interaction with the teacher for various grouping and activity settings.

Table 3

Academic Interaction with Teacher: Acts per Minute for Observations of Various Grouping Size/Activity Types*

Grouping Size/Activity Type	$\bar{X}$	s^2	Academic Initiation with Teacher No. Observations
Small Group	.94	1.62	23
Large Group	.55	.19	30
Individual	.47	.53	36
Multi-Ability Activity	.30	.13	29
Small Group/ Multi-Ability Activity	.71	2.04	16
Large Group/ Non-Multi-Ability Activity	.86	.76	22

*Ahmadjian, Op.cit.

An analysis of variance allowed Ahmadjian to examine the effect of being in a classroom which had experienced the Multi-Ability in-service treatment as compared to the effect of experiencing small groups or multi-ability activities in untreated classrooms. In order to carry out this analysis, she used the single observation as the unit of analysis, thereby losing some independence of observations, given that some observations were on the same student.

Her results may be summarized briefly. There were only 8 observations of small group settings in untreated classrooms, but these showed a high rate of academic initiation between students. As a result, the analysis of variance with classroom type and group size shows a significant main effect for group size, but no effect of classroom type and no interaction effect. As far as could be told by this small number of observations in

untreated classrooms, interaction rates are uniformly higher with the use of small groups (Ahmadjian, p. 122).

Examination of the effect of Multi-Ability activities on academic talk with classmates tells a different story. In a parallel analysis, Ahmadjian found highly significant main effects for both activity type and classroom type, plus an interaction effect. These results are presented in Table 4.

Table 4

Analysis of Variance: Number of Academic Initiations with Other Students by Classroom Type and Activity Type

Source	S.S.	D.F.	M.S.	F
Main Effects	375.58	3	125.19	7.60***
Classroom Type	92.70	1	92.70	5.63**
Activity Type	155.56	2	77.78	4.73**
Classroom Type X Activity Type	174.06	2	87.03	5.29**
Residual	6256.04	380	16.46	

* $p < .05$
** $p < .01$
*** $p < .001$

Ahmadjian, p. 122

Examination of the average rate of initiation per three minute observation in Table 5, shows why the analysis of variance produces a strong interaction effect. When Multi-Ability activity was observed in the three in-service classrooms, it showed, on the average, 3.67 acts per observation. However, in the other three classrooms, there was only .14 of an act per three minute observation during multi-ability activity. This difference in means is statistically significant. Thus multi-ability activity boost interaction in the in-service classroom but depresses it in the untreated classrooms.

Table 5

Academic Acts Per Observation with Other Students by Activity Type and Classroom Type: Means, Standard Deviations and T-test

Activity Type	Classroom Type	Mean	S.D.	N	t-Test
MA Activity	In-Service	3.67	6.24	97	2.80**
	No In-Service	0.14	0.48	21	
Non MA Activity	In-Service	1.65	3.02	121	0.92
	Non In-Service	1.31	3.12	147	

** p .01

Ahmadjian, p. 114

In the classrooms which received in-service students were engaged in multi-media activities and creative writing while these were never observed in the other three classrooms. Thus the in-service classrooms were using a much wider variety of the recommended activities scored as multi-ability in this study. In addition, multi-ability activities were used in small group settings only in treated classrooms. This undoubtedly helped to produce the strong positive effect of multi-ability activities in the in-service classrooms.

In review, Ahmadjian's study presented observational evidence to the effect that the use of small groups and multi-ability activities does much to boost active academic participation on the part of low readers. Both the use of small groups and the use of task activities using a wider range of abilities were important in raising the academic participation levels of poor readers in integrated classrooms.

The significance of improved rates of academic initiation lies in its relationship to learning outcomes. Recent studies of low achievers have shown consistently that time-on-task (active learning time) is a powerful predictor of learning outcomes (Berliner, et al., 1978). Low achievers are often found disengaged or waiting for the teacher thereby lowering the probability of learning. If academic participation had gone on

for a whole year, it might well have led to measurable improvement in academic achievement[5].

Effects of Small Group Curriculum

It is not enough to show that the use of small group and new kinds of activities produce more active participation on the part of Low Readers then the use of conventional teaching tasks. It still may be the case that within heterogeneous small groups, the participation of the Low Readers is less than that of the High Readers. Expectation States Theory would predict that even with multi-ability activities, unless some of the other interventions were effective, we can still expect to see less activity and influence on the part of the Low Readers than the High Readers.

In the small group curriculum introduced by the in-service staff, two interventions were combined. The students learned that everyone ought to participate and had practice in carrying out the required behaviors. In addition, the curriculum was defined by the in-service staff as requiring many different abilities.

One month after in-service ended, the evaluation activities included a special small-group task designed to measure the extent of status generalization within small groups made up of children of mixed reading and racial status. Unlike previous experimental work, this criterion task was conducted in the classroom and used a discussion instead of a game task (Gamero, in progress).

[5] Since all the target children were receiving special reading instruction from the school specialist, Ahmadjian did try to measure differences in gains in reading scores on the standardized tests. Differences in grade level, however, made a reasonable comparison impossible. The reading specialist who did not know which children were in in-service classrooms, made more favorable evaluations of the reading progress of the students in treated classrooms. However, the difference was not statistically significant; and a few of the children in the in-service classrooms had received more favorable evaluations for the period before the program began. Thus it was not possible to conclude whether there were any effects on conventional learning criteria (Ahmadjian, 1980).

Gamero ran a special criterion discussion task to measure the extent of status generalization in six of the classrooms receiving in-service and in three of the untreated classrooms. She composed the students into groups of approximately five students who were heterogeneous as to sex, race and reading rank. Two adults acted out a standard script portraying a moral dilemma. Each discussion group was instructed to come to consensus on what was the best solution to the problem. In each group, a facilitator who was a low rank reader was appointed. The role of the facilitator was described on a chart: His/her job was to see to it that every one participated, that people gave different ideas, gave reasons for their ideas and listened to each other. The in-service classrooms had received some practice in using small groups with such a facilitator role; the facilitator acted to enforce the new behavior the students had learned in connection with groupwork.

For 18 groups in treated classrooms and 9 in untreated classrooms, Gamero used observers and tape recorders to do systematic scoring of the acts initiated by each actor in the group. Children in the other groups were not directly observed but filled out posttest questionnaires as did children in the observed groups. In total there were 28 groups with 143 S's in treated classrooms and 13 groups with 64 S's in untreated classrooms. Low Readers in the treated classrooms (not counting those who played facilitator roles) were significantly more active in the mixed status groups than Low Readers in untreated classrooms. Table 6 gives the average percentage of acts initiated by Low, Medium and High Readers in the two sets of classrooms. In order to calculate this statistic, the number of acts of each individual is divided by the total acts in his/her group. Then this percentage is averaged across all readers of a given status from different groups in a condition. The figures in Table 6 also show that the Low Readers were comparatively more active than the High Readers in treated classrooms. The reverse was the case for untreated classrooms.

Table 6

Academic Status and Percentage of Acts Contributed to Group Discussion for Treated and Untreated Classrooms: Small Small Group Criterion**

Perceived Reading Ability	Classroom Treated	Average % of Acts Initiated	N of Students	t value
Low	Yes	29.39	17	1.88*
	No	19.59	7	
Medium	Yes	21.28	31	.895
	No	27.69	18	
High	Yes	25.69	23	.926
	No	24.05	11	

* p less than .05

** Facilitator is omitted in calculating percentage initiation of these groups. All facilitators were Low Ability readers. However, their official role pushed their initiation rate up and obscures what happens to members of the group by ability status.

*Dina Gamero. "Evaluation of a Small Group Curriculum." Dissertation in progress, Stanford University.

Appointing a facilitator with the role of equalizing participation had some effect in untreated classrooms. In untreated classrooms, the Medium Ability readers have the highest average contribution to the task; there is only an average percentage difference of 4.5% between the High and Low Readers. This is much less of a difference than one would ordinarily find in status generalization research when there is no facilitator role. However, there is still an expectancy advantage of the High Readers in these groups. If one subtracts the percentage of acts contributed by the Low Readers from that of the High Readers in each group, there is an average expectancy advantage of the High Reader of 4.52%. There is a net expectancy advantage for the Low Readers in the treated groups; the parallel figure is -7.18%.

Gamero also examined the perceived competence of the Low Readers as measured by the item in the posttest questionnaire as to which student had the best ideas. This questionnaire item

gives some information on the extent to which reading status accounted for competence expectations and evaluations within these small groups. In this analysis she was able to use all students who filled out a questionnaire and who were willing to choose a person in answer to this item. She compared the observed percentage of choices going to Low, Medium, and High Readers to the expected number based on the proportions of each type of Reader in these groups. If there were no status effects, we would expect that the proportion of choices going to Low Readers would be similar to the proportion of Low Readers who participated. This comparison is given in Table 7.

Table 7

Observed and Expected Proportion of Choices Given to Low, Medium, and High Readers as the Person Who had the Best Ideas: For Treated and Untreated Classrooms

Reading Rank	In-service	N of Choices*	% Observed Choices	N of Students	Expected % Choices	Difference: Observed-Expected
High	Yes	77	55.84%	43	30.07%	25.77%
	No	34	55.88%	19	29.69%	26.19%
Medium	Yes	77	29.87%	62	43.36%	-13.49%
	No	34	23.53%	25	39.06%	-15.53%
Low	Yes	77	14.29%	38	26.94%	-12.65%
	No	34	20.59%	20	31.25%	-10.66%

*Calculations for this table were based on the total choices given to specific students. The rest of the choices were either given to the group as a whole or were refusals to answer the question.

In Table 7, 56% of the choices went to High Readers as having the best ideas in both sets of classrooms; if reading status were not operating, only 30% of the choices should have gone to these students. Being in a treated classroom did not seem to change the perceived competence of the Low Reader in a discussion task. Only 14% of the choices went to Low Readers in treated classrooms; the expected percentage was 27%.

Other analyses of the effects of the small group curriculum showed positive effects on pro-social behavior. Treated groups were significantly more likely to behave with cooperative acts such as giving positive evaluations of each other's contributions and giving action opportunities to others (Gamero, in progress). Lastly, students in the in-service classrooms were significantly more likely to state on a questionnaire that it was very important to "learn to work with students they disliked" (Perez, 1980).

Discussion

This study started from the proposition that a rigid social order based on reading ability operates in academically heterogeneous desegregated classrooms; this status order affects expectations students have of themselves and each other. Reading achievement has become an indicator of how "smart" or "dumb" children are; it has become an index of ability which organizes general expectations for competence in intellectually demanding tasks.

This represents a profound problem for the integrated school. If the minority children have poorer academic skills than the majority children, the operation of a reading status characteristic can depress participation rates of minority children. Even if the teacher organizes cooperative small group tasks which do not involve reading, the high status child is likely to dominate the activity and become more influential in the group's decision-making. In the end, the operation of a cooperative interracial group will succeed in reinforcing racist stereotypes of less intellectual competence of minority children--hardly a goal of school integration.

I have presented evidence of the operation of this phenomenon of status generalization in interracial groups, in groups of mixed reading ability, and finally, in groups which are mixed as to reading status and race. In desegregated schools where the minority children are of lower social class than majority children, it is very likely that the effect of reading

status will reinforce the effect of racial status in producing self-fulfilling prophecies we have described and documented.

The Multi-Ability Classroom model is a set of profound changes in conventional classroom instruction, changes in its task and evaluation structure. The model is a combination of interventions based on previous experimentation and a systematic theoretical analysis of how conventional methods of instruction create the academic status order. Studies of natural variation in classroom instruction among desegregated classrooms show how classrooms which use a narrower range of academic tasks, which encourage competition and invidious comparison, and which use standardized large-group tasks, make academic achievement differences between the racial groups highly salient.

At the core of the problem lies a conception of human ability held by teachers and students which is unidimensional. The curriculum and instructional features mirror the belief in that conception of ability and in the belief that the function of schooling is to separate and select the "winners" who are highly able, from the "losers" who are less able. We have proposed changes in the task and evaluation structure in order to modify that unidimensional concept of ability which allows reading to be used as an index of competence in all intellectual tasks.

In an exploratory study, the Stanford Status Equalization Project attempted to install the changes in task and evaluation structure which we have called the Multi-Ability Classroom. The recommended changes involved the installation of groupwork, task activities which do not make reading a prerequisite for success, use of multi-ability definitions of the situation, individualization of academic tasks, specific and private evaluation of individual students, and reduced comparative and competitive marking and grading.

The task of changing ongoing classrooms in the recommended direction was an engineering problem of major proportions. Analysis of data collected on the seven classrooms receiving in-service and the six control classrooms suggests that we were much more successful in installing small groups and

multi-ability tasks than we were in producing the desired changes in evaluation practices. Although the teachers who had received in-service were significantly more likely to provide individual feedback (as judged by their own students) than the controls, five out of the seven treated teachers did not score highly on an index including all the recommended features of the evaluation system. Some were highly eclectic, combining much traditional testing and grading with individualized instruction and evaluation. (These two practices showed a positive correlation in the sample of 23 teachers studied by the Status Equalization Project.) Others scored low on both these kinds of evaluation, evidently giving little of any kind of feedback to the students. Still others evidently reinforced poor readers, without providing honest evaluations so that they understood that they were operating several grade levels behind their age group.

The use of small groups and multi-ability activities had a dramatic effect of increasing the academic participation rates of poor readers, many of whom were Black. Only in the in-service classrooms did Ahmadjian observe poor readers working in small groups on multi-ability tasks, a combination highly productive of academic participation. Small groups were a relative rarity in all 23 classroom studied by the Status Project in the year prior to intervention; and they remained a rarity in the untreated control classrooms. The most common pattern of instruction we observed in 23 integrated classrooms was seatwork where the academic heterogenity is handled by giving different students different worksheets. The use of small groups clearly represents an improvement over this pattern; it produces more actively involved students.

Other studies cite a relationship between active, time-on-task and measurable learning gains among low achievers (Berliner, 1978). We were not able to show this relationship mostly because the in-service program was completed late in the year. However, I would expect that future studies would show this relationship because so many of the low achieving minority students in the schools we studied were so often disengaged from

academic work--withdrawn or actively engaged in non task-related social behavior. Just "co-opting" these students into active academic participation should, in the long run, lead to academic gains.

Other studies have documented academic gains from small groupwork in integrated classrooms (see Slavin, 1978; Lucker, 1976; Sharan, 1980). Techniques such as Slavin's team learning or Aaronson's jigsaw classroom demonstrate learning gains for minority children in experimental curricula. I would interpret these gains as an effect of the small group interaction which co-opts the often "disengaged" low-achiever into active efforts at learning.

An analysis of variance of the effect of using tasks which do not make reading a prerequisite for success and which permit performance in multiple media shows strong effects of task on increasing participation of poor readers, but only when the context is one involving groupwork. Ahmadjian's observational data strongly suggest that it is not only the cooperative small group which increased interaction, but the choice of task as well.

The small group curriculum brought to the in-service classrooms by the two staff members featured two interventions: tasks were all defined as requiring multiple abilities; and children were taught norms of behavior involving equal participation and listening to each other. Both these techniques have shown effectiveness in preventing status generalization in mixed status groups. The criterion task used to evaluate the effectiveness of this curriculum showed that Low Readers were significantly more active in mixed status groups which had experienced the curriculum than in those groups which had not. In treated groups, Low Readers were somewhat more active than High Readers in contributing to a discussion of the best solution to the moral dilemma. Although interaction in the treated classrooms was "equal status" from a participation point of view, the High Readers were seen as having better ideas than the Low Readers. The Low Readers were unlikely to be picked as having

contributed the best ideas in either the treated or untreated classrooms.

These results are interpreted to mean that the norms for equal participation introduced by the curriculum were primarily responsible for the effects achieved on participation. The fact that competence evaluations remained unchanged suggests that reading status was operating unchecked to determine influence and competence evaluations in the discussion task. In all probability, the teachers had not continued to define each group task in the month following in-service as requiring multiple abilities and had not continued to make clear that each student was expected to be good at some of these abilities. Another possible cause of the failure to change competence expectations was the basic evaluation structure of the treated classrooms; many had retained frequent use of testing, marking and grading which encouraged invidious comparisons. It may be that unless the basic evaluation structure is changed, the use of multi-ability interventions in subjects such as social studies is not sufficient to change competence expectations. The problem is not one of the inability of the intervention to change competence expectations in a relatively short amount of time; Rosenholtz's experimental data on the Multi-Ability Curriculum in an ongoing classroom showed that this could be done (1980). In any case, these data indicate that the reading status order was operating as a powerful factor in determining competence evaluations; its power was quite unchecked in the treated groups showing an equal pattern of participation.

The small group curriculum produced many desirable effects in the behavior of the interracial groups on the criterion task. Treated groups were significantly more likely to make favorable evaluations of each other's ideas and to give action opportunities to each other. Children who had experienced the curriculum were significantly more likely to say that it was important or very important to learn to work with others whom they dislike. Even the use of the facilitator role demonstrated that Low Readers can play leadership roles effectively. In the

untreated classrooms, with no training at all, the explicit use of a facilitator role prevented severe dominance by High Readers in participation although it did nothing to boost the participation of the Low Readers. In sum, the small group curriculum has considerable merit in producing equal participation and other desirable pro-social behaviors.

On the negative side, the small groups in treated classrooms were still operating so as to reinforce the inferior competence evaluations of Low Readers (who were mostly Black). It is doubtful that we managed to change the conceptions of human ability on any long-term basis. The evaluation structures of these classrooms did not meet our theoretical specifications. Furthermore, it was doubtful that the teachers felt truly comfortable with a multi-ability definition of ongoing groupwork. This, in turn, may be attributed, not to the impossibility of achieving this goal, but to the very limiting and negative conditions under which the in-service was forced to operate. The staff was never given official time in which teachers were freed from their paid time to work with the in-service educators. Staff was forced to "grab" teachers on the run and to make their major impact through helping the teacher by modeling groupwork methods during class time.

Conclusions

The Multi-Ability Classroom recommends changes for desegregated classrooms in both task and evaluation structure so as to prevent consistent dominance by high status students, even when cooperative groupwork is used. In an exploratory study, we were able to examine the effects of a changed task structure in seven fifth and sixth grade classrooms of an integrated school. These classrooms received a small group curriculum featuring tasks which did not require reading along with norms for equal participation. Teachers were instructed to make liberal use of small groups and tasks which required many different intellectual abilities. After in-service training, treated classrooms were

found to make liberal use of small groups; they were more likely to use multi- media tasks and other non-conventional academic activities.

The net effect of this task structure as compared to more conventional task structure was more active academic behavior of low status readers, who were mostly Black, in ongoing classwork and in mixed status discussion groups.

Despite the increased participation, reading status still appeared as a powerful force in determining competence evaluations within the mixed groups. Ironically, it may turn out to be easier to increase academic participation and thus, learning outcomes, than it is to avoid reinforcing racist expectations for incompetence of the low achieving minority students.

The task for future applied research is clear: a more thorough test of the Multi-Ability Classroom is necessary. We need the field conditions to change the evaluation structure as successfully as we changed the task structure. Furthermore, the intervention should take place in the fall so that a full year is available for the effects on learning outcomes to be properly measured.

References

Ahmadjian, Janis. "Academic Status and Reading Achievements: Modifying the Effects of the Self-Fulfilling Prophecy." Unpublished doctoral dissertation, Stanford University, 1980.

Berger, J., Cohen, B.P., and Zelditch, M.J. Status conceptions and social interactions, American Sociological Review, 1972, 37, 241-255.

Berliner, David; Fisher, Charles; Filby, Nikola; Marliave, Richard; Cahen, Leonard; Dishaw, Marilyn; Moore, Jeffrey. Beginning Teacher Evaluation Study--Teaching Behaviors, Academic Learning Time and Student Achievement: Final Report of Phase III-B. San Francisco, California: Far West Laboratory, 1978.

Cohen, E. G. "Interracial Interaction Disability." Human Relations, 1972, 25, 9-24.

Cohen, E. G. "Design and Redesign of the Desegregated School." In Stephan, W. and Feagin, J. (Eds.) School Desegregation: Past, Present, and Future. New York: Plenum Press, 1980.

Lucker, G., Rosenfeld, D., Sikes, J. and Aaronson, E. Performance in the interdependent classroom: A field study. American Educational Research Journal, 1976, 68, 588-596.

Morris, Richard. "A Normative Intervention to Equalize Participation in Task-Oriented Groups." Unpublished doctoral dissertation, Stanford University, 1977.

Perez, Theresa. "In-service Teacher Education: An Organizational Model for School Change." Unpublished doctoral dissertation. Stanford University, 1980.

Rist,R. The Invisible Children: School Integration in American Society. Cambridge: Harvard University Press, 1978.

Rosenholtz, S.J. "Treating problems of academic status. In J. Berger and M. Zelditch, Jr. (Eds.) Status, attribution and justice. New York: Elsevier Scientific Publishing, in press.

Rosenholtz, S. J. and Wilson, B. "The Effect of Classroom Structure on Shared Perceptions of Ability." American Educational Research Journal, 1980, 17, 75-82.

Schofield, J.W., and Sagar, A. The social context of learning in an interracial school. In R. Rist (Ed.) Desegregated Schools: Appraisals of an American Experiment. New York: Academic Press, 1979.

Sharan, S., Lazarowitz, R. and Ackerman, Z. Academic Achievement of elementary school children in small group versus whole-class instruction. Journal of Experimental Education, 1980, 48.

Simpson, C. "Classroom structure and the reality of ability differences. Paper presented at the annual meeting of the Pacific Sociological Association, March, 1977.

Slavin, R. Student teams and comparison among equals: Effects on academic performance and student attitudes. Journal of Educational Psychology, 1978, 70, 532-538.

Stulac, J. "The Self-Fulfilling Prophecy: Modifying the Effects of a Unidimensional Perception of Academic Competence in Task-Oriented Groups." Unpublished doctoral dissertation, Stanford University, 1975.

Wilson, Bruce. "Classroom Instructional Features and Conceptions of Academic Ability." Unpublished doctoral disseration, Stanford University, 1979.